

**PATENT**  
SZS&Z Ref. No.: IO031004PUS  
Attorney Docket No.: 2003P52592US (INFN/SZ0018)

## REMARKS

This is intended as a full and complete response to the Office Action dated January 7, 2005, having a shortened statutory period for response set to expire on April 7, 2005. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1, 5-7, 10-13 and 15-26 are pending in the application. Claims 1, 5-7, 10-13, 15-22 and 25-26 remain pending following entry of this response. Claims 1, 7, 13, 21-22 and 25 have been amended. Claims 23-24 have been canceled. Claims 19 and 20 have been rewritten as new claims 27 and 28. Applicants submit that the amendments do not introduce new matter.

### Claim Rejections - 35 USC § 112

Claims 1, 5 and 6 are rejected under 35 U.S.C. 112, second paragraph. The preambles of independent claims 1 and 7 have been amended to more clearly recite that the method or the circuit is for adjusting a voltage at an output node. Furthermore, each of the independent claims 1, 7 and 13 has been amended to clarify that each of the plurality of switches is "configured to selectively couple the output node to a single node of the voltage-dividing circuit". Applicants submit that this rejection has been obviated in view of the amendments to the claims. Withdrawal of this rejection is respectfully requested.

### Claim Rejections 35 USC § 102

Claims 1, 5, 7, 10, 11, 13, 15, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by *Tedrow et al.* (U.S. Pat. No. 5,546,042, hereinafter *Tedrow*). Applicants respectfully traverse this rejection.

*Tedrow* discloses a circuitry for adjusting a voltage generated by a sample and hold circuit 501 (Fig. 5). A voltage reference circuit 515 provides a reference voltage, and a number of serially connected resistors R3 to Rk are provided, wherein switches N2 to Nk are connected as shown in Fig. 5 of *Tedrow*. The field-effect transistors N2 to Nk

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Nk act as switches in response to control voltages supplied at the gates of the field-effect transistors (see column 7, lines 33 to 38 of *Tedrow*). The control voltages are supplied by a control engine, which controls the output voltage  $V_{out}$  during programming, according to the exact placement algorithm. The output voltage may be used as a programming voltage for programming a non-volatile memory cell (see column 4, lines 18 to 21 of *Tedrow*). In addition, according to *Tedrow*, the voltage regulation circuit 45 is especially useful when programming a memory cell that stores more than one bit of data, i.e., memory cells, the threshold voltages of which can be altered during programming, thus permitting storage of analog voltage levels (see column 4, lines 34 to 46 of *Tedrow*). Since the corresponding threshold voltages depend on the programming voltage (see column 2, lines 3 to 6 of *Tedrow*, for example), the output voltage of the programming voltage regulation circuit has to be dynamically altered. This alteration is achieved using the control engine which provides control voltages to the gates of the switches N2 to Nk.

Thus, *Tedrow* is not concerned with a trimming circuit in which the voltage at the output node is compared to a reference voltage to determine the states of one or more non-volatile storage elements, wherein the control signals for the plurality of switches are generated based on the states. *Tedrow* does not teach, show or suggest that the control signals are generated as a function of states of one or more non-volatile storage elements, wherein the states are determined based on the output of a voltage comparator comparing the voltage at the output node to a reference voltage, as recited in the independent claims 1, 7 and 13.

Therefore, Applicants submit that the independent claims 1, 7 and 13, as amended, and those depending therefrom, are patentable over *Tedrow*. Withdrawal of the rejection is respectfully requested.

### Claim Rejections 35 USC § 103

Claims 17, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tedrow in view of Hoenigschmid et al.* (U.S. Pat. No. 5,970,009, hereinafter *Hoenigschmid*). Claims 23 and 24 have been canceled. Applicants respectfully traverse this rejection with respect to claim 17.

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As discussed above, *Tedrow* does not teach, show or suggest that the control signals are generated as a function of states of one or more non-volatile storage elements, wherein the states are determined based on the output of a voltage comparator comparing the voltage at the output node to a reference voltage, as recited in independent claim 13. *Hoenigschmid* discloses a DRAM which reduces power consumption in a standby mode. The references cited by the Examiner, either alone or in combination, do not teach, show or suggest that the control signals are generated as a function of states of one or more non-volatile storage elements, wherein the states are determined based on the output of a voltage comparator comparing the voltage at the output node to a reference voltage. Therefore, Applicants submit that claim 17 is patentable over *Tedrow* in view of *Hoenigschmid*. Withdrawal of the rejection is respectfully requested.

#### **Allowable Subject Matter**

Claims 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 19 and 20 have been rewritten as new claims 27 and 28, respectively, incorporating all respective limitations of the base claim and any intervening claims. Applicants submit that new claims 27 and 28 are in condition for allowance.

The Examiner states that claim 6 and 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph and to include all of the limitations of the base claim and any intervening claims. Applicants submit that the rejection under 35 U.S.C. 112 has been obviated in view of the amendments to the independent claims 1 and 7. Therefore, Applicants submit that claims 6 and 12 are in condition for allowance.

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### Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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